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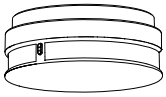
merten
by Schneider Electric

ARGUS Smoke Detector Basic

Operating instructions



Art. no. MEG5471-2119

Accessories

– Sealing pin for ARGUS smoke detector (Art. no. 547000)

Operating instructions

These operating instructions for smoke detectors cover the following subjects:

- Function description
- Installation
- Operation
- Maintenance and care
- Technical data

They are aimed at the following target groups:

- Planners/architects/system integrators
- Fitters
- Specialists in smoke detectors
- Home owners
- Tenants

These operating instructions are an integral part of the product. After installation and commissioning, they must be handed over to the user.

For your safety

CAUTION

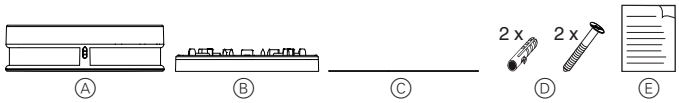
- Smoke detectors detect smoke, but do not detect flames, heat or warmth
- Smoke detectors cannot extinguish fires!
- Reliable smoke detection only functions if a suitable installation location is chosen and the smoke detectors are maintained at regular intervals.
- Do not paint over the smoke detector!

DANGER
Risk of fatal injury from smoke poisoning!

- Smoke fumes are highly poisonous. Just a few breaths result in loss of consciousness and lead to death in a short time!
- In the event of a fire, get yourself and other persons to safety as quickly as possible.
- Assist children, the elderly and the disabled, in particular.
- Next, alert the fire services as quickly as possible!
- Spend time in advance thinking about how to behave in the event of a fire (escape and evacuation measures) and about preventive fire protection.

Getting to know the smoke detector

Scope of supply



Ⓐ Smoke detector
Ⓑ Mounting base
Ⓒ Dust-protection foil
Ⓓ Fitting materials
Ⓔ Operating instructions

Function description

The ARGUS Smoke Detector Basic (hereafter called **smoke detector**) is a battery-operated smoke detector for private homes in accordance with EN14604 and vfdb14/01.
It promptly detects smoke from smouldering fires and open fires. An intensive acoustic signal and a flashing LED warn persons of smoke fumes in good time, allowing them to leave the danger area. The smoke detection works using the light scattering principle (Tyndall effect). The detector measures the diffusion of beams of light in a smoke chamber. If there is a large proportion of particles in the air due to smoke, the beams are reflected more strongly and reach a sensor that triggers an alarm.

The smoke detector is supplied with power from a permanently installed battery that has a service life of at least 10 years in normal use.

The smoke detector continuously monitors the smoke detection function in the smoke chamber and the battery's voltage. Malfunctions or a weak battery are indicated by acoustic signals and LED signals.

The smoke detector also offers various comfort functions.

Networkability

You can connect the smoke detector to other ARGUS smoke detectors in a network via a twin-core line.
Networking is useful when equipping a flat or an entire house with smoke detectors.

As soon as one smoke detector detects smoke, it triggers an alarm (local alarm) and forwards this alarm signal to all the other smoke detectors in the network. These also trigger an alarm (remote alarm). This ensures that all persons in the flat or house are warned in good time.

If the alarm at the local smoke detector ends, the alarm signal is no longer forwarded either. The other smoke detectors in the network then also end their alarms.

It is also possible to network the smoke detector with existing ARGUS Connect smoke detectors.

Smoke detectors in a network cannot replace a fire alarm system!
ARGUS smoke detectors do not qualify as networked smoke detectors under the provisions of the building regulations. Where building regulations require the mandatory installation of networked smoke detectors for specific buildings, a fire alarm system must be installed.

Hush function

The hush function allows you to manually set smoke detection to be less sensitive for a specific time. This is useful if you are expecting a lot of smoke or dust and want to avoid an alarm.

Pressing the function key shortly sets the smoke detector to hush mode for about nine minutes. This significantly scales up the alarm threshold and the alarm is not triggered. The LED flashes every 10 seconds during this period.

The smoke detector automatically exits hush mode once the time expires. The normal monitoring function is active again and the LED flashes as in its normal operating state again.

Alarm memory

If a local alarm is triggered, this alarm is saved in the smoke detector. You can reset the alarm memory with the function key.

The smoke detector indicates the saved alarm for about 24 hours after the end of the alarm by flashing the yellow LED.

In this way, you can see that a smoke detector triggered an alarm during your absence and you can investigate the cause.

A remote alarm triggered by a local alarm from a smoke detector in a network is not saved.

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Battery failure signal

The permanently installed battery of a smoke detector has a service life of at least 10 years in normal use. The frequency of alarms and the operating conditions have an impact in the service life.

The battery failure signal begins in good time before the battery life ends (at least 30 days). This gives you sufficient time to replace the smoke detector with a new one.

To ensure that people are not disturbed at night, you can manually suppress the battery failure signal for eight hours using the function key.

Self-test of smoke detection

The smoke detector carries out a self-test of smoke detection at regular intervals. To do this, the smoke chamber and evaluation electronics are continuously tested. If an error occurs during this testing, the smoke detector reports the malfunction with an acoustic signal. The LED flashes as in its normal operating state.

Pollution compensation

The smoke detector recognises that the smoke chamber ages continuously over the years.

It adjusts the alarm threshold accordingly in order to avoid false alarms due to pollution and ageing.

However, excessive pollution of the smoke chamber can trigger an alarm.

Smoke detector signals

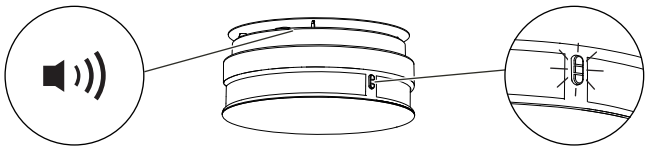
Make sure that all persons in the building recognise the smoke detector's signals in order to identify dangers and behave accordingly.

Make sure that persons in the household with impaired hearing are informed promptly of an alarm and are able to get to safety.

In the event of longer absences, you may fail to hear the battery failure signal.

To avoid this risk, perform a function test directly after you return!

The following LED and acoustic signals indicate the various smoke detector statuses.



Normal mode

No sound

6 Min

6 Min

LED flashes red (every 6 min)

Local alarm (smoke detection)

3 x

1,5 sec

3 x

1,5 sec

Alarm tone 3 x long - pause - 3 x long - ...

0,5 sec

0,5 sec

LED flashes red (every 0.5 s)

Remote alarm (smoke detection)

3 x

1,5 sec

3 x

1,5 sec

Alarm tone 3 x long - pause - 3 x long - ...

6 Min

6 Min

LED flashes red (approx. every 6 min)

Alarm memory (local alarm)

No sound

3x

45 s

3x

45s

LED flashes yellow (3 x every 45 s)

Hush mode

No sound

10 sec

10 sec

LED flashes red (every 10 s)

Test mode

3 x

1,5 sec

3 x

1,5 sec

Alarm tone 3 x long - pause - 3 x long - ...

0,5 sec

0,5 sec

LED flashes red (every 0.5 s)

Battery failure (weak battery)

1 x

45 sec

1 x

45 sec

Signal tone 1 x short (every 45 s)

6 Min

6 Min

LED flashes red (approx. every 6 min)

Malfunction (self-test failed)

3 x

45 sec

3 x

45 sec

Signal tone 3 x short (every 45 s)

6 Min

6 Min

LED flashes red (approx. every 6 min)

End of service life

3 x

45 sec

3 x

45 sec

Signal tone 3 x short (every 45 s)

6 Min

6 Min

LED flashes red (approx. every 6 min)

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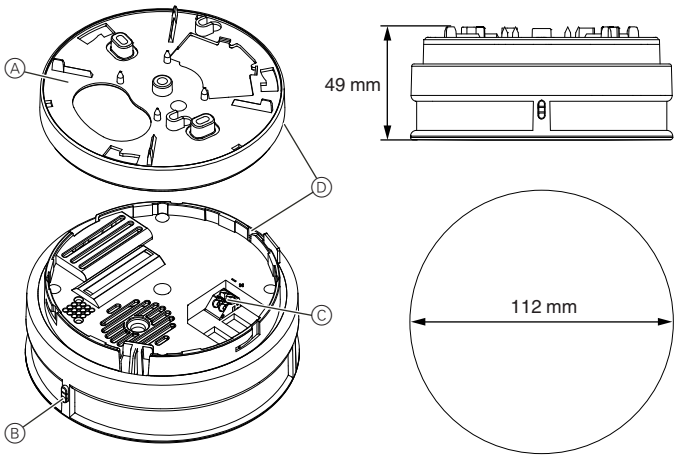
Connections, displays and operating elements



Ⓐ Mounting base
Ⓑ Function key and LED (red/yellow)
Ⓒ Network terminal
Ⓓ Marking for installation position

Selecting the installation site

DANGER

Risk of fatal injury from unsuitable installation site!

A poorly chosen installation site can result in late alerting in the event of a fire, or lead to false alarms.

Always observe the following installation information and the smoke detector's technical data.

If in doubt, have a certified specialist for smoke detectors perform the installation.

The smoke detector is intended for use in private residential buildings and rooms with a similar purpose.

The smoke detector is also suitabel for installation in leisure accomodation vehicles (e. g. caravans).

To ensure optimum protection against fire fumes, the number of smoke detectors in the building, the choice of installation site and correct commissioning are crucial.

Smoke detectors must be installed so that the smoke reaches them quickly during the early stages of a fire.

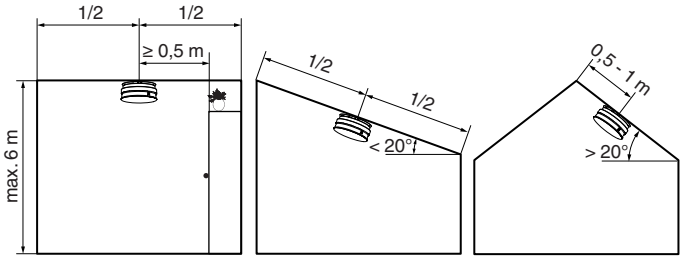
The smoke detector monitors the specific area around its installation site and **not necessarily** other rooms or other floors.

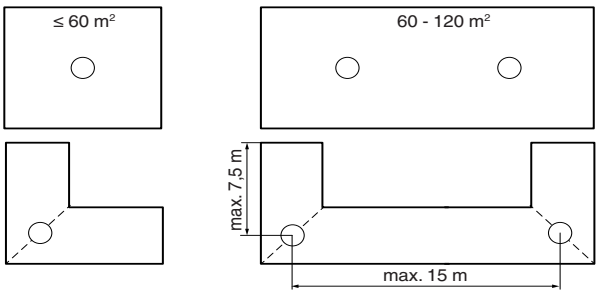
Monitoring area and distances

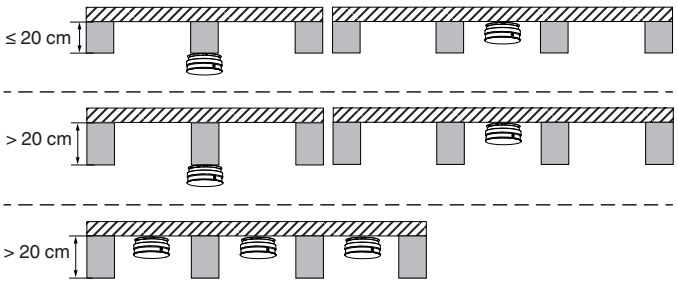
- Installation on horizontal ceilings or angled ceilings with a maximum angle of 20°
- Maximum monitoring area per smoke detector: 60 m², regardless of the room shape
- Place as centrally as possible in the room (including in corner corridors)
- Maximum ceiling height: 6 m
- Distance to walls, high cupboards or partitions: min. 0.5 m
- Installation on angled ceilings with an angle of more than 20°, in the upper area at distance of 0.5–1 m from gable
- Installation on partitioned ceilings (e.g. exposed ceiling joists or beams), depending on the beam height and field size
  - Field size ≤ 36 m², any beam height: Installed on the beam or in field, as close to the centre of the room as possible
  - Field size > 36 m² and beam height > 20 cm: one smoke detector per field
- Installation in narrow corridors, as close to the centre of the ceiling as possible. If there is a possibility that false alarms will be triggered frequently, wall mounting is also possible in small rooms.
- In rooms which are separated in height by platforms or galleries: for platforms >16 m² and lenght and width >2 m, a smoke detector must be installed below the platform.

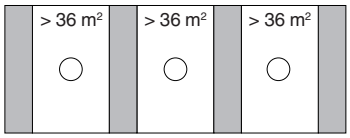
Wall mounting:

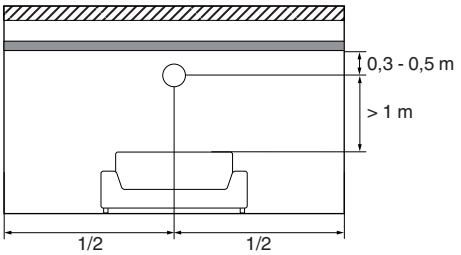
- On non-load-bearing walls
- Possible in kitchens that serve as escape routes
- Distance to ceiling: 0.3–0.5 m
- Vertical distance to furniture: at least 1 m











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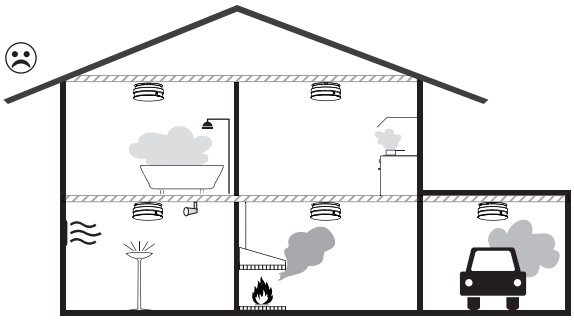
Unsuitable installation sites

- Kitchens that are frequently subject to steam or cooking fumes. Here, additional special detectors (e.g. heat detectors) should be used.
- In the direct vicinity of open fireplaces or ovens which may occasionally emit smoke.
- Bathrooms that are frequently subject to water vapour.
- Garages that are subject to car exhaust.
- In the direct vicinity of lamps, electronic ballasts, transformers or other electromagnetic fields that could interfere with the smoke detector's electronics.
- In the direct vicinity of ventilation openings (air conditioning, central ventilation system) and fans.
- In the direct vincinity of heat sources or direct sunlight.
- Rooms subject to permanently high dust levels (e.g. workshops).

In the event of high dust levels (e.g. during renovations or rebuilding work), you should dismount the smoke detector for the duration of the work. Immediately after the work is complete, reinstall the smoke detector at its original installation site and perform a function test!

Direct heat radiation (e. g. direct sunlight or vincinity to strong spotlights) can damage the smoke detector and the battery. Choose an installation site with sufficient distance to strong heat sources.



Minimum and optimum protection

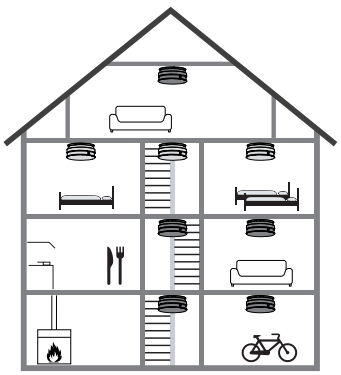
Your flat or home must have a minimum number of smoke detectors to ensure **minimum protection** Ⓐ in the event of a fire.

At least one smoke detector (depending on the room size) must therefore be installed in the following rooms:

- All bedrooms
- All children's rooms
- Corridors that serve as escape routes
- Stairwells: top floor

To ensure **optimum protection** Ⓑ in the event of a fire, you should **also** install smoke detectors in the following rooms:

- Living rooms
- Attics
- Cellars without permanently high dust levels
- All corridors
- Stairwells: every floor



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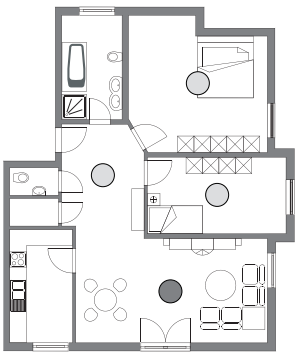

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Mounting

The smoke detector can only be installed with the mounting base supplied. The supplied mounting foil with pre-punched drilling holes protects the reverse of the smoke detector against drilling dust.

For installation, only use the enclosed installation material!

Screwing the smoke detector into the mounting base connects the battery contacts. This activates the battery and the service life starts. The smoke detector must lock firmly into place in the mounting base.

If the smoke detector is removed from the mounting base, the battery contacts are disconnected and the smoke detector is deactivated immediately.

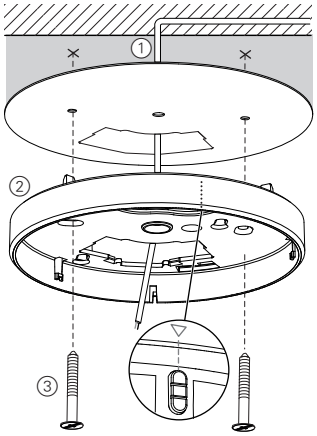
The battery is permanently installed in the smoke detector and cannot be replaced.

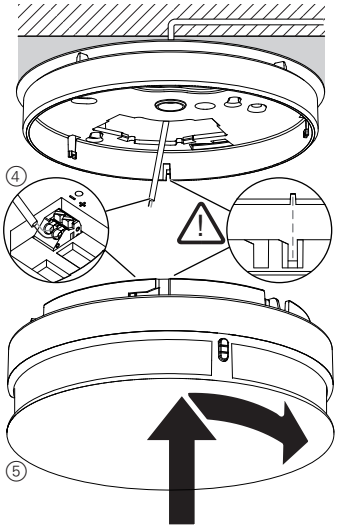
You can use sealing pins (available as accessories) when installing the smoke detector in order to detect any manipulation or unauthorised disassembly.

Make sure that the smoke detector is aligned correctly when you install it. It should be installed so that the LED does not disturb anyone in the room when it flashes at regular intervals.

Markings on the smoke detector and mounting base make it easier to align ideally. The smoke detector can only lock into place in the mounting base and activate once these markings are aligned after screwing in.

① Lay the network cable to the installation site.
② Align the mounting base. The arrow marking on the mounting base shows the final position of the LED on the installed smoke detector.
③ Attach the mounting foil and mounting base to the ceiling with two screws. Lead the network cable through the opening provided in the mounting foil.
④ Connect network cable (note polarity).
⑤ Press the smoke detector into the mounting base (markings must line up) and turn clockwise. You should feel the smoke detector lock into place.
⑥ **Perform a function test!**





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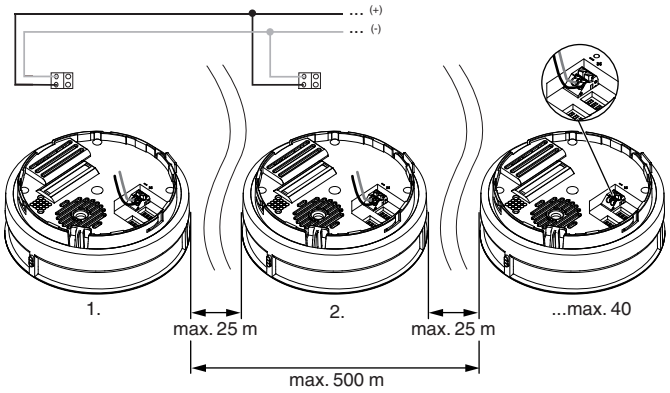
How to network the smoke detector

Wire-connected networking

Wire-connected networking is done via the networking terminals (+/-) on the reverse of the smoke detector.

The following basic principles apply:

- Separate twin-core line (e.g. 0.8 mm telephone line) required
- A maximum of 40 smoke detectors can be networked
- Cable length between two smoke detectors: max. 25 m
- Total cable length of network: max. 500 m
- Only connect suitable ARGUS smoke detectors together in a network
- Note the polarity of the line.



How to operate the smoke detector

Function test

The function test is used to check that the smoke detector's alarm signals are functioning correctly. The smoke detector checks at regular intervals that smoke detection is functioning properly by means of a self-test. Do not use smoke or fire to test the function, simply use the function key.

Always perform the function test:

- after installation and after each time the device is inserted into the mounting base
- after a longer period of absence (more than 30 days)
- at least once a year.

CAUTION

Danger of hearing damage from alarm tone!

The function test triggers the smoke detector's loud alarm tone (at least 85 dB(A)). During operation, remain as far from the smoke detector as possible and also protect your ears.

You can only carry out the function test with an activated smoke detector. The smoke detector must be clipped into the mounting base.

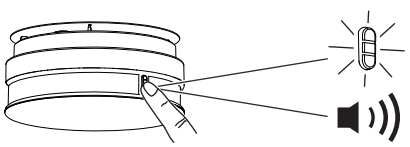
① Press the function key on the smoke detector for at least 1 s.

An alarm tone sounds at short intervals and the LED flashes every 0.5 s for as long as you hold down the function key. These alarm signals are the same as a real alarm.

If an alarm is already saved in the smoke detector when the function test is carried out, pressing the function key first deletes the saved alarm. Then the triggered alarm tone sounds.

If the alarm signals do not sound, the battery life has expired or the device is faulty. In this case, replace the smoke detector without delay.

By pressing the function key, the smoke detector switches to hush mode for about nin minutes. The LED flashes every 10 s during this period.

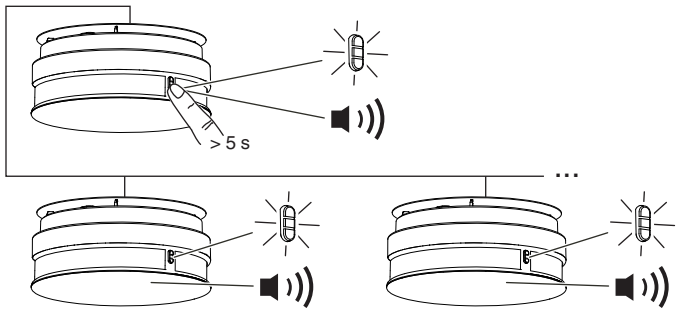


For smoke detectors in a network, alarm forwarding is also checked.

If the function test is performed on the local smoke detector, the test alarm is forwarded to all the smoke detectors in the network. These also trigger a test alarm.

Perform the function test on all the smoke detectors in the network to test the transmitting function of each smoke detector.

If the test alarm does not function for the smoke detectors in a network, check that they have been connected correctly and check the function of each smoke detector individually. Replace faulty smoke detectors without delay.



Hush function

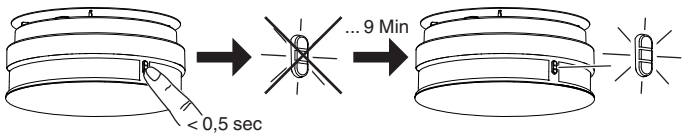
① Press the function key briefly.

The smoke detector switches to hush mode for about nine minutes. The LED flashes every 10 s during this period.

In hush mode, smoke detection has only a low sensitivity. Therefore pay extra attention to smoke development in the area of detection and the possible causes. If large amounts of smoke develop, an alarm sounds out regardless.

You **cannot** deactivate an existing alarm with the hush function. Therefore, screw the smoke detector out of the mounting base.

The smoke detector automatically exits hush mode once the time expires. The normal monitoring function is active again and the LED flashes as in its normal operating state again.



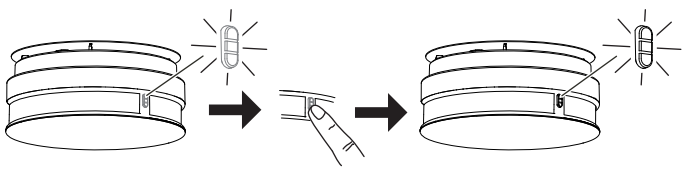
Reset alarm memory

A saved local alarm is indicated for about 24 hours by the flashing yellow LED. You can also reset the alarm memory manually.

① Press the function key briefly.

The yellow LED signal goes out.

The red LED flashes as in its normal operating state again.



Suppressing the battery failure signal

You can manually suppress the battery failure signal (e.g. at night).

① Press the function key briefly.

The signal tone is muted for eight hours. It then continues to sound every 45 seconds.

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Maintenance and care

To guarantee reliable functioning of the smoke detector, you have to check and clean it at regular intervals, at least once a year.

It is useful to keep a maintenance log to keep track of maintenance. You should log the precise installation site, date, any faults you identify and measures you take to rectify the faults.

If necessary, specify who is responsible for maintenance (e.g. in rented flats). Report any faults you identify to the landlord without delay.

The check includes:

- Checking the installation site (distance to walls, furniture etc., changed use of the room)
- Visual inspection of the smoke detector (identifiable mechanical damage, pollution, particularly on the outer grille)
- Checking the installation (mounting base attached firmly, smoke detector attached firmly to the mounting base)
- Function test (acoustic and visual alarm signals)

Clean the outside of the smoke detector with a damp cloth at regular intervals and remove dust with a vacuum cleaner or brush.

Do not clean the smoke detector with compressed air!

The smoke detector has a service life of 10 years. After the end of service life the smoke detector must be replaced!

Technical data

Functional principle:	Scattered light (Tyndall effect)
Detection type:	smoke
Power supply:	Lithium battery, permanently installed
Battery life:	10 years
Device service life:	10 years
Battery failure signal:	Min. 30 days, every 45 s
Optical display:	Red/yellow LED
Sensitivity:	EN 14604
Loudness of signal transmitter:	Approx. 85 dB(A) at 3 m distance
Networking:	Max. 40 smoke detectors
Network cable:	e.g. J-Y(St)Y 2 x 2 x 0.8 mm
Cable length total:	Max. 500 m
Cable length between two smoke detectors:	Max. 25 m
Operating temperature range:	0 °C to +60 °C
Dimensions (with mounting base):	112x49 mm (ø x H)
Type no.:	54S20
Tested:	To DIN EN 14604 (corresponds to EN 14604)
Q label:	As per vfdb Directive 14/01
Intended use:	As per DIN 14676

Dispose of the device separately from household waste at an official collection point for electrical waste. Professional recycling conserves raw material reserves and ensures that all regulations regarding the protection of health and the environment are complied with.

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